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Mayowa Akinlotan

 <https://orcid.org/0000-0001-5142-7168>

University of Texas at Austin, USA

Katholische Universität Eichstätt-Ingolstadt, Germany

Relativiser Alternation and Relative Clause Complexity: Insights from Nigerian and American Varieties

Abstract

Idiosyncrasies and peculiarities distinguishing new Englishes from the established ones are often identified and measured by examining the extent to which structural choices and patterns vary across the board. The competition between relativisers *wh-* and *that* in the construction of relative clause, which itself is a structurally complex-versus-simple construction site, allows for showing the extent to which choice of a relativiser relates to the construction of a complex or simple relative clause, given different factors. On the other hand, such investigation can also shed some light on the extent to which structural complexity characterises new varieties of English. Relying on 628 relative clauses drawn from written academic corpus, the study shows that *WH*-relativiser is preferred to *THAT*-relativiser by the Nigerian speakers, and vice versa by the American speakers. It is also found that *WH*-relative clause is more likely to be complex-structured while *THAT*-relative clause is more likely to be simple-structured. Among eight factors tested for independent effects, the factors representing *relativiser posterior syntactic form*, *syntactic function*, and *syntactic positioning of the relative clause* appeared to be strong predictors of where we might (not) find a certain relativiser and whether a complex or simple relative clause will emerge.

Keywords: relativiser, relative clause, structural complexity, relativiser posterior syntactic form, Nigerian English, new Englishes

1. Introduction

Some of the major sources of linguistic evidence distinguishing peculiarities of the new varieties of English (for example Nigerian English, Ghanaian English) are usually drawn from highly variable syntactic constructions, together with the motivations underpinning them. Relatedly, a pattern of certain syntactic choices in some new varieties has been found as evidence supporting the structural simplification hypothesis (Akinlotan 2016; 2018; Akinlotan and Housen 2017). Then, in some ways, the questions of constructional choices, including factors influencing certain

choice over the other, and how these choices relate to the development of structural complexity, merit further investigation. The present study thus contributes to these central questions by showing the extent to which the choice of a relativiser between *which* and *that* in an outer circle English represented by the Nigerian variety compares with findings in an inner circle English represented by the American variety.

Since relativisation exhibits different degrees of structural complexity, then we are able to show the extent to which a choice of relativiser, among other motivations, can provide us with insights into the choices of complexity in the Nigerian variety of English, as compared to the American variety. For instance, Guy and Bayley (1995), and Kikai, Schleppegrell, and Tagliamonte (1987) have shown that factors such as animacy and syntactic functions influence a choice of *that*-relativiser over *which*-relativiser in American English. This is an interesting syntactic alternation scenario not yet known in emerging varieties. Using Nigerian English as a representative variety of the outer circle varieties (Kachru 1985; Schneider 2007; Akinlotan 2019), a scenario showing how alternation of relativiser, including the resultant complexity in the structure of the relativisation, emerges. Such a generalisable outer circle syntactic scenario helps to show how known and unknown factors motivate choices of relativiser, the relativisation process and relative clause complexity being different between outer and inner circles varieties.

The relativisation process viz-a-viz relative clause, whose first syntactic process is to make a choice of a relativiser, is often constrained by a number of factors such as the animacy of the antecedent noun phrase, syntactic function of the antecedent noun phrase, complexity of the overall sentence structure embedding the relative clause, and the complexity of the ensuing relative clause (Guy and Bayley 1995). For instance in (1–3) we see how different relative clause constructions select different relativisers (*which*, *that*, and *empty*). Given that zero relativiser (3) is often misused in the variety under investigation, making it more a question of grammatical judgement, the present study will thus exclude it.

- (1) That is the car **which** my parents bought for me last year
- (2) Here is the apartment **that** got burnt
- (3) This is my friend (?) I mentioned to you.

It can be observed that the resulting relative clauses are of varying structure. Although relative pronouns are often influenced by certain constraints such as nonrestrictive relatives preferring a *wh*-relative pronoun, it can be seen that alternation is quite possible. Therefore, given that the speakers/writers must make a choice of a relativiser, such a phenomenon of syntactic alternation allows us to see how structural variability can shed light on the peculiarities of new varieties, together with how universal/general linguistic factors behave in a specific situation. Applying corpus method to 628 relative clauses extracted from the academic

articles in the Nigerian component of the International Corpus of English, the present study shows the syntactic contexts characterising (1) the process of making a choice between relativisers *which* or *that*, (2) the relativisation process, and (3) the emergent structural complexity. Using a variationist framework, the study analyses eight factors representing (1) animacy of the antecedent noun phrase, (2) syntactic function of the relativised element, (3) definiteness of the antecedent, (4) syntactic positioning of the relative clause, (5) overall sentence complexity, (6) grammatical number of the antecedent noun phrase, (7) relativiser posterior syntactic form, and (8) the complexity of the ensuing relative clause. As it will be shown, there are convergences and divergences, including those inconsistent with the expectations formed in the literature. For instance, animacy of the antecedent noun phrase and syntactic functions of the antecedent noun phrase, both of which strongly explained the choice of *that*-relativiser in the American variety, turned out less influential. Instead, syntactic positioning of the relative clause and relativiser posterior syntactic form strongly showed why *that*-relativiser is not the preferred choice in the Nigerian variety. More specifically, a closer look at the internal structure of the ensuing relative clauses in the Nigerian variety shows that the complexity of the relative clause is very much related to the animacy and syntactic function of the antecedent NP.

2. Predictability of relativiser and relative clauses in varieties of English

The structure of relative clauses, including relativisation strategies and alternation between relativisers, continues to merit attention in different languages and varieties, both from the diachronic and synchronic perspective. Among several scholars interested in the structure of relative clauses, Romaine (1982) studied the use of relative-pronoun in Middle Scots while Dekeyser (1984) and Rissanen (1984) investigated relativisers in Early Modern English and the 17th century American English, respectively. Synchronically, Prideaux and Baker (1986) examined the processing of English relative clause, while Biesenbach-Lucas (1987) compared relative pronoun use in speech and journalistic writing, showing how text type influenced structural choices. More recently, Sigley (1997) also showed the extent to which formality and medium of production (written or spoken) influenced the choice of relative pronoun in New Zealand English.

Just as the present study is focused on academic text type, it is expected that findings presented here will be different from non-academic text types, such as speech and/journalistic writings. Relatedly, Biesenbach-Lucas (1987) and Kikai, Schleppegrell, and Tagliamonte (1987) found that zero relatives were more common in speech than in journalistic writing. Similarly, Adamson (1992) found that zero relativiser was not placed at subject position and that the choice of zero relativiser was socially stratified. Explicating on this pattern, Adamson

(1992) asserted that such scenario showed that working-class speakers preferred using zero relativiser, while upper class speakers preferred an explicit relativiser. Drawing on this finding, we expect that academic text types under consideration will reflect higher competence, performance, and, as such, somewhat complexity and variability.

Another factor shown in the literature influencing the structure of the relative clause is that of the syntactic function. For instance, Kikai, Schleppegrell, and Tagliamonte (1987) investigated the effects of syntactic position on relative-pronoun choice, which shows that there is a positive relationship between the syntactic position of a relative clause and its internal structure. Akinlotan and Housen (2017) showed that syntactic function exerts strong influences on structural choices in Nigerian English. For instance, simpler structures are more likely to be placed at the subject position, while complex ones are likely to be placed at the non-subject positions such as subject complement, direct object, and indirect object. Following this relationship, one can expect a positive relationship between syntactic function and alternation of relativiser, including alternation between simple and complex structures.

Furthermore, Tottie (1993) also analysed a number of factors influencing the choice of a relativiser. Tottie showed that personal pronouns placed at the subject position are more likely to use zero relativiser. In the same line of research, Guy and Bayley (1995) examined the choice of relativiser and the relative clauses in the American variety of English, showing the extent to which choice making is related to five relevant factors. Similar to Guy and Bayley (1995), Mak, Vonk, and Schriefers (2002) also found that animacy influenced the processing of relative clause in Dutch and German. On the basis of this finding, it can thus be expected that animacy will also emerge as a prominent factor in the Nigerian variety, and by extension, in many outer circle varieties.

Guy and Bayley (1995) considered the influences of five factors representing: (1) animacy of the antecedent (2) channel of communication (i.e. speech versus writing), (3) syntactic function of the relativised element in the lower clause (classifying such syntactic functions as subjects, direct objects, objects of pied-pipped prepositions, objects of stranded prepositions, and the adjunct elements of locatives, manner adverbials, and temporals), (4) adjacency of the antecedent and the relative pronoun, and (5) syntactic function of the antecedent in the matrix clause (subject, direct object, and so on). Although it is not clearly stated how these factors were selected, they are indeed relevant to the choice of relativiser and the patterning of relative clauses. Expectedly, they were able to provide specific explanations regarding where we might find certain relativiser, and the structural pattern of the ensuing relative clause.

Among many significant findings presented in the study, Guy and Bayley, for instance, found that the factor representing syntactic function of the antecedent in the matrix clause was insignificant while the animacy of the antecedent was

found to be a strong determinant. Drawing on this study, including that of its method and selection of variables, the present paper intends to show the extent to which the choice making of relativiser, including the structure of the emerging relative clauses, is related to relevant factors, such as those analysed in Guy and Bayley (1995). Since the Nigerian variety of English is at the different evolution stage (Schneider 2007; Akinlotan 2019), and is structurally different from American English, the study will, among many other findings, show convergences and divergences in both varieties. For instance, the extent to which alternation scenarios in American English compares with that of Nigerian English will be shown.

More recently, Gennari, Mirković, and MacDonald (2012) studied how effects of animacy, competition processes, and language-specific constraints influence speakers' structural patterning of relative clauses. Animacy was found to be a strong factor. This further confirms the strong status of animacy as a very strong determinant influencing the choice of relativiser and emergent relative clauses in most languages and varieties of English. In a more extended study, Gut and Coronel (2012) studied relativisation strategies in Nigerian, Jamaican, Philippine and Singapore Englishes, showing that these new varieties of English share a large number of relativisation strategies, among many other structural properties. They found a systematic variation of relativisation strategies in different text types in different varieties. Whereas the systemic variation in Jamaican and Singaporean varieties of English showed a positive relationship with text types, the case is the opposite for Nigerian and Philippine varieties. Following this finding, we expect that scenarios found in the present study will, to some extent, provide insights into similar outer circle varieties such as Ghanaian, Singaporean, Philippines, and many others.

3. Method: procedure and initial analyses

Extraction and cleaning: The present study follows the methods in Guy and Bayley (1995) and Akinlotan (2018; 2019). Using semi-automation extraction method, relative clauses constructed by *who* and *that* are extracted from all of the 15 academic texts in the Nigerian component of the International Corpus of English. The initial extraction returns 5,393 tokens which are then cleaned by reading through every clause, ensuring that only those interchangeable cases are retained and used for the final analyses. The AntConc corpus toolkit (Anthony 2014) allows for such manual intervention, in which the interface allows for the meaning processing of the tokens. Meanwhile, unlike Guy and Bayley (1995), the present study does not account for zero-construction as in (3) above. Of course such usage as in (3) is a valid ground for syntactic analysis, it is not a syntactic site that in itself embodies complex variation, meaning and constraint. Having cleaned

the extracted tokens, they were then classified into two groups representing *wh*- and *that*-clauses.

Coding and Variable Operationalization: A total of 628 relative clauses is then subjected to preliminary analyses, which involved variables operationalisation and coding. Variables representing (1) animacy of the antecedent noun phrase, (2) syntactic function of the relativised element, (3) definiteness of the antecedent, (4) syntactic positioning of the relative clause, (4) overall sentence complexity, (5) grammatical number of the antecedent noun phrase, (6) relativiser posterior syntactic form and (7) complexity of the relative clause are operationalised following theoretical frameworks in the literature (Guy and Bayley 1995; Akinlotan 2017; 2018; 2019; Hoffmann 2011; Brunner and Hoffmann 2020). The variables are selected on the basis of their strong influences recorded in the literature involving syntactic alternations (Guy and Bayley 1995; Hoffmann 2011; Akinlotan 2017). The method with which each variable is operationalised is presented below.

Syntactic function of the antecedent: The antecedent noun phrases in (4) and (5) function as a subject and a direct object, respectively.

- (4) The major **Nigerian languages**, which are Yoruba, Igbo, and Hausa, are less researched.
- (5) The committee has addressed **certain issues** that have caused serious problems in the past.

There are eight syntactic functions identified in Akinlotan and Housen (2017) which the present study followed. These syntactic functions include subject, object complement, subject complement, preposition complement, indirect object, direct object, adverbial, and apposition. More examples are provided in the analysis section.

Overall sentence complexity: The complexity of the entire sentence structure is also measured by accounting for the structural length, which involves adding up the sum of words making up the sentence structure. Such totaling only counted the main words, excluding prepositions, (in)definite articles, and conjunctions. For example in (4), the words totaled would be *major, Nigerian, languages, which, are, Yoruba, Igbo, Hausa, are, less, and researched*, which returns eleven word length. Whereas (5) also returns 11 words-length. The word lengths are then analysed in terms of complexity where ≤ 11 to ≤ 15 length structures are categorised as simple, and those >15 categorised as complex structures.

Proximity: By proximity, I mean the positioning and movement of the relative clause in relation to the referent being relativised, such as whether the relative clause is placed right beside or away from the NP. For instance in (6) and (7) the relative clauses are respectively placed afar and near the NPs.

- (6) Also, our local experience here has shown that whatever technology is employed should consider the usefulness of interactivity between students and tutors **which** contributes a major boost to learning
- (7) Modelling is a computer programme **that** invites the learner to create their own model of a system...
- (8) The students, following their exploits in the competition, and **who** are now ambassadors...

In (6) the relativiser *which* refers not to the NP *tutors* (actually the question of acceptability can be asked regarding the combination *tutors + which*) but to the NP *the usefulness of interactivity between students and tutors*.

- (9) He cited another Quranic verse to support this view, **which** reads ‘... If thy Lord had enforced His will, surely all those on earth would have believed without exception...’ ‘Nigerian languages’, ‘certain issues’

As can be deduced, the relativiser *which* refers not to the NP ‘this view’ but to the NP ‘another Quranic verse’, which, positioning, could have been influenced by the postmodifier ‘to support this view’. To some extent, such a far positioning could have been influenced by the prepositional phrase ‘between students and tutors’, which perhaps suggests we can argue that a syntactic component can cause a syntactic movement of the relativisation away from the closest position. For example, (9) shows different motivation for such syntactic movement.

The next variable operationalised is *the animacy of the antecedent NP*. Following method in Akinlotan (2016; 2018), a binary method representing animate versus inanimate is employed. Names of persons, countries (e.g. Germany, Nigeria), and organisations (e.g. UN, WHO, Shell) are classified as animate, while other NPs are classified as inanimate. For example ‘computer program’, ‘Quranic verse’, ‘Nigerian languages’, and ‘certain issues’ are classified inanimate while ‘tutors’, and ‘States of the Federation’ are classified animate. Similar to factor animacy is the antecedent *number* (i.e. the grammatical number) in which the NP being relativised is identified as being singular or plural.

Definiteness of the antecedent is also accounted for as being definite or indefinite. Proper nouns, and NPs preceded by definite articles and specifying determiners (e.g. *the* and *five* in **the** men, **five** students) are classified as definite articles. On the other hand, unspecified NPs and those NPs preceded by indefinite article are classified as indefinite. For example in (10), the relativised NP is definite, while that of (11) is indefinite.

- (10) It is the anatomy of **the modernist novel** that provokes David Jones’ description of the concept as the literature of “newness”.

- (11) The twentieth century ushered in **a new world order** that became shocking and frightening to man.

Relativisation length, which refers to the length of the relative clause, is also accounted for using a measure of calculation applied to *overall sentence complexity*. Note that only the length of the relative clause is measured here and not the length of the entire sentence structure. For example in (10) and (11) only the following relative clauses *that provokes David Jones' description of the concept as the literature of 'newness'* and *that became shocking and frightening to man* are measured. The last but not the least variable operationalised is *relativiser verb type*, which refers to the verb type that immediately follows the relativiser *that* or *which*. The next variable is *posterior syntactic form*.

Posterior Syntactic Form: Because the relativiser can be immediately followed up by other syntactic elements other than verb phrase, I first identified whether the relativiser is immediately followed up by a verb phrase (VP) or not a verb phrase (NVP). For instance the relative clause in the sentence 'The teacher *who, to some extent deserved the ovation*, won the award' is immediately split up and followed by *to some extent deserved the ovation*, where this is not the case in (10) and (11), where the relativisations are not split up but immediately followed up by verb phrases (VP) *provokes* and *became* respectively. The VP group is then further analysed into different structural types, as either a verb phrase consisting of one verb (i.e. simple verb phrase) or more than one verb (i.e. complex verb phrase). The simple verb phrase is further analysed into verb types, as being *lexical/action* or *auxiliary*. The NVP group is also further analysed into different syntactic units that include prepositional phrase, noun phrase, adverbial, and clause.

Distribution analyses: Since this is the first basic descriptive work applying a variationist approach to the alternation of relativiser in the Nigerian variety, it is important to first show the extent to which the known and unknown factors behave independently. Therefore simple descriptive statistic method is applied to the data so that we have the basic understanding of how these factors independently influence relativiser choice making. Such basic analysis provides important background knowledge for more in-depth inferential statistical analysis using logistic regression and the related. Having completed the coding and operationalisation of the selected variables, the tokens were then subjected to distribution analyses showing relativiser choice is influenced by the variables analysed. The distributions are presented in cross table, shedding light on (a) what is the preferred relativiser between *which* and *that*, and (b) how the predictors in their own independent strength influence choices. The frequency distributions are integrated with theoretical discussions.

4. Results and discussion

In this section, results of the distributional analyses, together with discussions, are presented. The general overview showing different dimensions characterising relativiser preferences is presented. The independent effects of each variable on the choice of relativiser are then presented.

4.1. Overview of relativiser alternation in American and Nigerian Englishes

Table 1. An overview of the tendency to choose a particular relativiser

		<i>WH-</i>		<i>THAT</i>		TOTAL	
		n	%	n	%	n	%
Current study	Nigerian English	369	59	259	41	628	100
Kikai, Schleppegrell, and Tagliamonte (1987)	American English	598	43	782	57	1380	100
Guy and Bayley (1995)	American English	288	44	362	56	650	100

As can be seen in Table 1 our expectation that *that*-relativiser will be a preferred choice in the Nigerian variety is not met. As Table 1 shows, *wh*-relativiser is more likely to be selected over *THAT* in the Nigerian variety while *that* is likely to be the preferred choice in the American variety. Although patterns in Kikai, Schleppegrell, and Tagliamonte (1987), and Guy and Bayley (1995) reflected different time spans, the tendency to select *that* over *wh*- appeared to be very strong. Given that the data in the current study came from academic writing while that of Guy and Bayley (1995) came from speech and writing, then the difference in preference might be a reflection of formality, text type, style, genre, and the related. Nevertheless, the pattern perhaps reflects the underlying structural variation characterising interference-driven and interference-free varieties of English. Of course the cognitive limits of the speakers of such interference-driven Nigerian variety of English mean that the competition for selection between *wh*- and *that* is often influenced by the (equivalent) available choices in the co-existing local languages. For instance, there is no distinction between relativisers *which* and *that* in the local Nigerian languages, such that the selection of one relativiser over the other becomes more volatile than systematic. Alternatively, we can find some explanations to the preferential discrepancy in these two varieties by looking at the specific contexts where we might (not) find *wh*- or *that*-relativiser, the scenarios which are provided in Table 2 below.

4.2. Independent effects of factors motivating *wh*- or *that*-relativiser

What factors, and the extent to which they motivate a choice of a relativiser in Nigerian English are not known. And such knowledge can provide us with insights into the nature of the structural complexity of relative clauses in the variety, and by extension, in similar outer circle varieties such as Indian, Singaporean, Ghanaian, Hong Kong, where similar sociolinguistic landscapes operate. This section will also show how these factors relate to the internal structure of the relative clause emanating from the choice of a particular relativiser over the other. In other words, contexts showing how a choice of a relativiser relates to the structural complexity of the relative clause will be shown, such that we can predict whether a *wh*-relativiser or *that*-relativiser influences the complexity of the relative clause. Table 2 shows a detailed distribution of the relativiser in relations to the eight factors considered.

Table 2. Relativiser *wh*- and *that* alternation in academic Nigerian English

Predictors	WH-		THAT		TOTAL	
	n	%	n	%	n	%
1. Definiteness of antecedent NP						
Definite	208	65	110	35	318	100
Indefinite	161	52	149	48	310	100
2. Overall sentence structure						
Simple (0-15 words-length)	275	62	170	38	445	100
Complex (16-37 words-length)	94	51	89	49	183	100
3. Animacy of the Antecedent NP						
Animate	48	79	13	21	61	100
Inanimate	321	57	246	43	567	100
4. Syntactic Positioning of the RC						
Near	337	57	250	43	587	100
Far	32	78	9	22	41	100
5. Syntactic function of the relativised NP						
Adverbial	11	69	5	31	16	100
Direct object	95	55	79	45	174	100
Preposition complement	128	64	73	36	201	100
Subject	44	54	38	46	82	100
Subject complement	91	59	64	41	155	100

Predictors	WH-		THAT		TOTAL	
	n	%	n	%	n	%
6. Grammatical number of the antecedent NP						
Singular	228	65	121	35	349	100
Plural	141	51	138	49	279	100
7. Relative clause structure						
Simple (0-10 words-length)	296	59	202	41	498	100
Complex (11-21 words-length)	100	64	57	36	157	100
8. Relativiser posterior syntactic form						
Lexical	227	60	149	40	376	100
Phrasal	133	55	107	45	240	100
Clausal	9	75	3	25	12	100
TOTAL	369	59	259	41	628	100

Figure 1 below provides an apt overview of the relationship between different contexts and the relativiser alternation. As can be seen in Figure 1, *WH*-relativiser is more likely to be used in all of the contexts. In other words, *WH*-relativiser appears to be more entrenched in the mental grammars of the speakers of the Nigerian variety, such that *THAT* is likely to lose out in all competing contexts considered. One explanation could be that *WH*-relativiser cognitively embodies some sort of syntactic, semantic, or pragmatic properties that do not cognitively characterise *THAT*-relativiser. Such abstraction is perhaps facilitated by the fact that the co-existing local Nigerian languages do not make distinctions between these two relativisers.

However, the extent to which *THAT*-relativiser is likely to be deselected is highly variable across the 20 factorial contexts. For instance, there are stronger competitions for the selection between *WH*- and *THAT* in contexts involving indefinite antecedent NP, complex overall sentence structure, and plural antecedent NP than there are in animate antecedent NP, far syntactic positioning, and clausal relativiser posterior syntactic form. In other words, we are more likely to predict usages of *THAT* in context involving indefinite antecedent NP, complex overall sentence structure, and plural antecedent NP. On the other hand, we are less likely to have *WH*-relativiser in the contexts involving animate antecedent NP, far syntactic positioning, and clausal relativiser posterior syntactic form. As can be seen in Table 2, some clear-cut patterns do not only emerge but also that certain three predictors are crucial in determining whether a *wh*- or *that*-relativiser will be used.

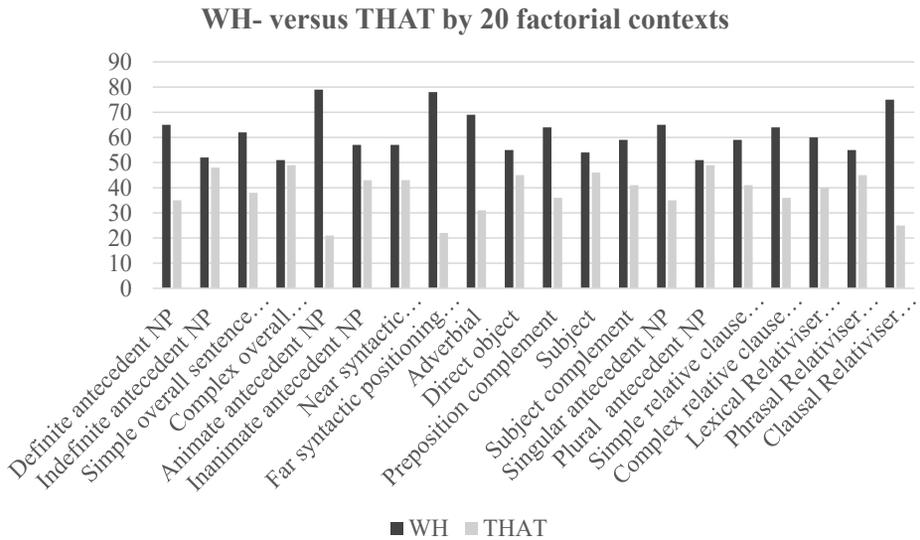


Fig 1. *WH-* versus *THAT* by 20 factorial contexts

These strong predictors are (1) animacy of the antecedent of the relativised NP, (2) syntactic positioning of the relative clause, and (3) syntactic element co-occurring with the relative clause. The influence of animacy as a strong predictor is in tune with the findings in the literature (Guy and Bayley 1995). Conversely, the factor representing syntactic function of the relativised noun phrase is not found exerting strong influence, as found in Guy and Bayley (1995). Though the variable has been operationalised differently in the present study, one would still expect such important variable to exert some degree of influence. For instance, Guy and Bayley (1995) found a relationship between a *that*-relative clause and relativised NP functioning as a subject. In other words, relative clause placed at the subject position is more likely to turn out with a *that*-relativiser in the American variety. Whereas this is not a clear-cut case here as shown in Table 2 and Figure 1. Guy and Bayley employed a binary syntactic function (subject versus non-subject position), unlike the detailed syntactic functions employed here. Therefore such divergence can be said to be a reflection of the effects of the detailed syntactic functions considered in the present study. If we collapse the syntactic functions into a binary classification representing subject versus non-subject syntactic positions, the following clearer pattern emerges.

Table 3. A binary syntactic function of the relativised noun phrase and choice of relativiser

	WH-		THAT		TOTAL	
	n	%	n	%	n	%
Subject NP	44	54	38	46	82	100
Non-subject NP	325	60	221	40	546	100
TOTAL	369	59	259	41	628	100

As Table 3 clearly shows, *that*-relative clause is less likely to occur with subject relativised NP. Rather, a subject relativised NP is more likely to use *wh*-relative clause (54%) than *that*-relative clause (46%).

(12) The house **which** I told you about is here.

(13) Our problem is the political corruption **that** ruins our resources.

In (12), the relativised NP *the house* functions as the subject of the sentence, while the relativised NP *the political corruption* in (13) functions as subject complement of the sentence. Although Guy and Bayley (1995) did not find out the motivation for the relationship between subject relativised noun phrase and *that*-clause, the present study attempts to account for this by examining the overall complexity of the sentence and the definiteness of these noun phrases in various syntactic positions. As can be seen in Table 2, some insights into the syntactic function and choice of the relativiser can be sought and found in the pattern that emerges from definiteness of the relativised noun phrases. It is shown that the relativised element, when definite, is more likely to co-occur with *wh*-relativiser (65%) than with a *that*-relativiser (35%). There appears to be a positive correlation between a choice of relativiser and the definiteness of the relativised element and the syntactic function, which a regression analysis considering the influences of these variables at the same time can explicitly clarify.

Meanwhile the emergence of a strong influence of syntactic positioning of the relative clause and that of relativiser posterior shows new predictors that require further testing. As the Table shows, *wh*-relative clause is more likely to favour animate antecedent noun phrase than inanimate antecedent noun phrase. Also, in a similar vein, a *that*-relative clause is more likely to favour inanimate antecedent noun phrase than animate antecedent noun phrase. This pattern can attest to the claim that Nigerian English is still a norm-dependent on more established varieties such as British and American (Akinlotan 2016). On the basis of influences from the local Nigerian languages (Akinlotan 2016), it was expected to find evidence of such a construction (i.e. *human + which*) *the man which I told you about*, of which none was found. Although the dataset is of small size, the omission/absence

of such norm-provoking construction reflects not only the upwards proficiency to be expected of the academic text type in Nigerian English but also of the cognitive ability to inhibit transfer influences from the local Nigerian languages which do not distinguish between animacy and relativisers.

Although Guy and Bayley (1995) did not analyse syntactic positioning of the relative clauses in terms of their proximity to the relativised elements, they did find a similar factor *adjacency of the antecedent and the relative clause* associating with the zero relativiser. In other words, the proximity of the antecedent elements to the relative clause does not influence the choice of *wh*-relative clause or *that*-relative clause. Whereas in the present data, Table 2 shows that when the relative clause is far away from the relativised element, *wh*-relativiser (78%) is preferred to *that*-relativiser (22%). Hence, when there are/is intervening word(s), phrase(s), clause(s) between the relativised element and the relative clause, *that*-relativiser is unlikely to be used. In (14) the *wh*-relativiser *which*, together with its relative clause *which contribute to learning*, is placed far away from the relativised element *interactivity*. Whereas in (15), the relative clause, together with its *that*-relativiser, is placed closer to the relativised element.

- (14) Also, our local experience here has shown that whatever technology is employed should consider the usefulness of interactivity between students and tutors **which** contribute to learning.
- (15) Teams are useful in developing distance education because of the various specialisation **that** are needed.

Since proximity appears to influence the choice of a relativiser, it could then be argued that the intervening words/phrases/clauses cognitively influence the choice of a relativiser favouring *wh*-relativiser. Following that pattern, it can then be expected that in a distance relationship (i.e. where the relativiser is far away from the relativised element), there is a tendency to overcome the animacy constraint (i.e. the rule of the combinations such as *who* + human relativised element, or *which* + non-human relativised element, except for where deliberate metaphor is realised). Although there is no evidence of such construction in the corpus data under investigation (perhaps because the academic text type represents the extreme end of standard written Nigerian English), one can expect such construction in student writings.

More specifically, one expects that other text types representing the opposite end of the basilectal Nigerian English such as learner writing will exhibit the influence of distant relativised element and norm-provoking choice of relativiser (for example, human relativised element + *which*, where deliberate metaphor is not intended). This is a claim that needs to be tested out in future research, using data from any of the outer and/or expanding circles (Kachru 1985). Another factor that shows strong independent effects is that of relativiser posterior syntactic

form (i.e. the syntactic element that immediately follows the relativiser). Note that a relativiser can function as a subject of a relative clause structure, and such an NP is expected to be followed immediately by a verb/verb phrase. However, this structural pattern is not always so, resulting in certain constructions being immediately followed by an adverb, a prepositional phrase, or a clause. In (16–19) different syntactic forms following *wh*- and *that*-relativisers are found.

- (16) It is the status dimension **that** handles issues related to language policy formulation and implementation.
- (17) Romiszowski (1988) defines a media as the carrier of messages from some transmitting source... to the receiver of the message (**which** in our case is the learner).
- (18) However, the pomp and ceremony **which** a particular marriage attracts is determined by the wealth and status of the groom's family.
- (19) That is a sex scandal, **which**, if not sweep under the carpet, will lead to the impeachment of the President.

In (16), the relativiser posterior is the lexical verb *handles*, whereas in (17) the posterior is the prepositional phrase *in our cause*, which consequently contributes to the structural complexity of the relative clause. Meanwhile, in (18), the posterior is the NP *a particular marriage*, which functions alongside the relativiser *which* as the subject of the relative clause, while in (19) the posterior *if not sweep under the carpet* is a clause that immediately follows the relativiser *which*. In other words, a phrasal and clausal posterior will most likely contribute to the complexity of the entire sentence structure, or to that of the relativisation process. As Table 2 shows, clausal posterior is more related to *wh*-relativiser, which implies that *that*-relativiser is less likely to be preferred when there is an intervening clause coming immediately after the relativiser.

Also, *wh*-relativiser is structurally more complex-oriented than *that*-relativiser is. This is true as *wh*-relativiser is more likely to be found with a clausal posterior (75%) than with a phrasal posterior (55%) or lexical posterior (60%). Meanwhile, unlike *wh*-relativiser, *that*-relativiser is structurally simple-oriented (25% versus 75%). Previous studies have essentially examined the influences of antecedent elements, neglecting crucial insights that might be gained by looking at the influences of posterior syntactic elements. Following the strong relationship found in the choices and structure of *wh*-relativiser, together with the dynamics involved with the positioning of its posterior without affecting the structure and meaning of the relative clause, it is then possible to say that *wh*-relativiser is more cognitively entrenched than *that*-relativiser in Nigerian English.

Additionally, the phrasal posterior group is further analysed along verb phrase and prepositional phrase. Such analysis shows that a prepositional phrase does not almost always follow a *that*-relativiser. No such construction like (16) is found in

the dataset studied herein. Example (16) is a construction where a prepositional phrase intervenes between *that*-relativiser and subsequent syntactic elements. Splitting relativiser with an intervening clause such as in (18) is also rarely found. These patterns suggest that structural complexity is better handled with *wh*-relativiser than with *that*-relativiser. The fact that the local Nigerian languages do not distinguish between *who*, *which*, or *that* further suggests that there is some cognitive difficulty involved in the choice of relativiser, so that simplifying the selection of a relativiser and consequently the construction becomes a strategy for negotiating cognitive limits.

4.3 Structural simplification hypothesis and relative clause complexity

Structural complexity or structural simplification remains one of the central hypotheses characterising the syntactic structures in emerging varieties of English. The hypothesis that states that speakers of emerging varieties are more likely to select simple over complex structures in the same contexts where speakers of the established varieties are more likely to select complex ones, has been tested out with different structures in Nigerian English (Akinlotan 2016; 2017; 2018; 2019) where findings remain indefinite. Hence, more data and studies are needed to further provide clarity on the hypothesis, at least in Nigerian English, which perhaps can be described as one of the prototypical emerging varieties. Having accounted for some measures of structural complexity of the relative clauses in the variety at hand, then the resultant pattern can provide some insights on the structural simplification hypothesis. As can be seen in Table 2 above, the extent to which relative clause in Nigerian English is structurally complex or simple is shown, together with how such simple-complex alternation can be explained by a choice of relativiser *wh*- or *that*.

For instance, relative clauses produced by a *who*- or *which*-relativiser are likely to be more structurally complex than those relative clauses produced by a *that*-relativiser. Also, amongst many observable factors, the principle of antecedent weight appears to explain somewhat clearly the pattern of complexity found in the distribution. By antecedent weight, I assume that the relative clause can be divided into different parts such as antecedent space, which refers to the totality of syntactic space possible and all of the words/phrase/clauses that occupy such space. Such syntactic space can be called pre-relativiser space, where there is no structural or cognitive limits as to the complexity of structures being produced therein. In other words, do the structural and cognitive complexity of pre-relativiser influence the complexity of the ensuing relative clause? For instance in (20) below, all that appeared before the relativiser *which* is *According to Durkheim, it is the society*, which is somewhat simpler to the ensuing relative clause *which creates and uses religion as an instrument in controlling, moulding and directing their thinking and behavior*.

Could then be argued that the complexity of the relative clause is affected by the complexity of the pre-relativiser structure? Of course language as an instrument for organizing, processing, and conveying information is subject to the ability of the speakers to manage its cognitive limits, which themselves vary from one speaker to the other. One cognitive creativity with which speakers manage cognitive limits is one of cognitive linguistic intelligence, which, for instance, could mean that speakers negotiate where to place a complex or a simple structure. In other words, if a speaker produces a complex pre-relativiser structure, then the relative clause turns out to be simple-structured, and vice versa. Hence, the heavier this pre-relativiser syntactic space is, the lighter/simpler the ensuing relative clause structure.

The pre-relativiser syntactic antecedent space can be classified as heavy when it consists of complex noun phrase, verb phrase, and the related complex structures. That will mean that the cumulative weight of all the words making up the construction right up to the relativiser influences the complexity of the ensuing relative clause. In (20) for instance, the pre-relativiser syntactic antecedent space is not heavy, so the resulting relative clause is heavy. In other words, the relative clause is heavier than pre-relativiser syntactic slot (i.e. the cumulative weight of all the words preceding the relativisation). Similarly in (21), where the pre-relativiser syntactic antecedent slot is heavy, the ensuing relative clause is simple. Although the extent to which a choice of a relativiser strongly influences the complexity of pre-relativiser syntactic antecedent weight is not clearly tested here, tentative explanation suggests that there is little relationship between the two.

- (20) According to Durkheim, it is the society, **which** creates and uses religion as an instrument in controlling, moulding and directing their thinking and behaviour.
- (21) All known human societies, be they urban or rural, simple or complex, have cultures, **which** are distinct to them.
- (22) It is this grip on human behaviours **that** has accounted largely for the use of Gods name in moulding and controlling human beings and in manipulating and brainwashing them.

Another measure of structural complexity of relative clauses in the Nigerian variety of English can be a consideration of the correspondence structural relationship between the relativised NP and the ensuing relative clause. For instance, explicating on the structural simplification hypothesis, Akinlotan and Housen (2017) showed that the choice of a relative clause as a postmodifier and the complexity of such construction have direct effects on the complexity of the NP in Nigerian English. Unlike the pre-relativiser syntactic antecedent slot, postmodification syntactic unit is potentially a richer syntactic slot with which complex relative clauses are more likely to be produced. Whereas, Akinlotan

and Housen (2017) found that NPs in Nigerian English, including those found in academic text type where complex choices are expected, are usually simple-structured, even a choice of complex one is readily available, desirable, or could be a better communicative choice.

As can be seen in (20) and (22), all the NPs in the antecedent positions are simple-structured, contributing to the simplification process. Meanwhile in (21), there is a relatively complex subject NP *All known human societies*, which is supported by post modifications *be they urban or rural* and *simple or complex*, so that altogether they contribute to the heaviness of the pre-relativiser syntactic antecedent position.

According to Akinlotan and Housen (2017), one major reason for the simplification of the NP structure in Nigerian English is often the lack of modification: This is somewhat relevant here too. NP modification is semantically equivalent to relative clause, both of which intend to provide as much as relevant information for the clear identification of the reference in the real world. Hence, they are both a syntactic site for structural complexity which is often not taken in our corpus data. Of course complex relative clauses require some degree of creativity at the levels of cognition, language, and thought which are in turn affected by influences of transfer from competing local languages. Although the general tendency for relative clauses in our data is to be simple-structured, which could be effects of many underlying cognitive and internal and external linguistic factors, such as *the balancing between antecedent and the relative clause*, there is some evidence pointing to the presence of complexification. How well internalised these complex choices are remains one of the many questions that the frequency distribution in Table 2 raises.

Therefore, the users of the variety at hand are aware, knowledgeable about and exposed to complex structures, choices of which are not strongly related to a choice of *wh-* or *that-*relativiser. Nevertheless, we can still provide some specific contexts where we might expect to find complex-structured relative clauses in the Nigerian variety, and perhaps by extension, in similar outer circle varieties such as Ghanaian, Singaporean, Philippines, and the like. As Table 2 shows, complex-structured relative clauses are more likely to be produced with *wh-*relativiser than with *that-*relativiser. On the other hand, *that-*relative clause is more likely to occur in a complex-structured (49%) type than in simple-structured sentence (38%). As can be seen, *wh-*relative clause is more likely to appear in simple-structured sentence (62%) than in complex-structured sentence (51%). A closer look at the distribution in terms of the relationship between relative clauses complexity and choice of a relativiser shows that the complexity of relative clause in the variety is not related to a choice of relativiser. Hence there is tendency for complexification, more especially with *wh-*relative clause, though Table 2 lacks the explanatory powers.

On the basis of the findings in the literature (Akinlotan and Housen 2017; Akinlotan 2018; Schilk and Schuab 2016), supported with specific constructions

from the corpus material, one explanation can be put forward. Such explanation is that the syntactic positioning of the relativised NP, together with *wh-* or *that-* relativiser influences where we might find complex or simple relative clauses. According to Akinlotan and Housen (2017) subject position attracts simple NP structures, while non-subject position attracts complex NP structures in Nigerian English. This pattern can also be the case for the complexity of relative clauses.

- (23) The men who were here yesterday lost their jobs.
 (24) Virtual systems are also systems which provide access to information and services remotely or through appropriate connections to libraries, laboratories, and information centers.

For example in (23), the relative clause *who were here yesterday* is a simple-structured choice placed at the subject position of the sentence structure. Whereas in (24), we have a rather complex-structured one *which provide access to information and services remotely or through appropriate connections to libraries, laboratories, and information centers*. The relative influence of syntactic position can be related to end weight (Wasow 2002). This is because certain syntactic positions such as subject complement in (24) is positionally advantageous more than relative clauses relativising subject or as appositive NPs. Such explanation thus leads to the question of embedding relative clause, and syntactic positioning viz-a-viz end or start weight. Is a relative clause placed at the start of the sentence less likely to embed another relative clause? Is the same pattern likely for subject relative clauses? Are non-subject relative clauses or those placed at the end likely to embed relative clause, such that they are likely to be complex-structured? Of course more empirical data are needed to support the specific constructions provided here as tentative explanations. For instance, the relative clauses in (25) and (26) differ in structures from those found in (23) and (24), even though the topic/referent in the relativised NP is similar, and that they are also found in similar subject and subject complement positions.

- (25) Simulation is a computer based programme **that** embodies some model of an aspect of the world which could take several forms such as a system of equations, a set of procedures, a set of condition-action rules.
 (26) It is a powerful medium **that** can be used to easily access the world's information through the Internet.

As (25) shows, there is an embedded relative clause structure, which is missing in (26). Hence, the complexity of the parent relative clause *that embodies some model of an aspect of the world which could take several forms such as a system of equations, a set of procedures, a set of condition-action rules* is contributed to by the embedding one *which could take several forms such as a system of equations,*

a set of procedures, a set of condition-action rules. Of course, relative clause at the subject or appositive positions can indeed embed another relative clause, but the extent to which such embedding structure is complex is definitely related to the syntactic positioning of the parent relative clause. In another perspective, the embedding process can be explained in terms of *relativiser cooperation*, the extent to which a particular relativiser is likely to produce the parent relative clause with which an embedding one cooperates.

For example, I did not find a complex-structured *which*-relative clause embedding a *that*-relative clause. Such rarity perhaps suggests that embedding relative clauses are more likely to be produced by a *that*-relativiser rather than a *wh*-relativiser. This pattern perhaps reflects some degree of interference or transfer effects, as pattern being cognitively motivated by the fact the local Nigerian languages such as Yoruba, Igbo, and Hausa do have some sort of semantic sense of relativisation that is more cognitively, semantically, and pragmatically translatable to *which*. And more importantly, more data are required to further test out all the patterns found in the present study, such as the extent to which lines of convergence and divergences can be drawn along the established and similar outer circle varieties of English such as Ghanaian, Singaporean, Indian, Jamaican, Hong Kong and the likes.

5. Conclusion

The study has shown the extent to which relativiser alternation between *wh*- and *that* in Nigerian English, and by extension, outer circle varieties, is influenced by a number of known and unknown factors. More specifically, it is shown that preferential choice of a relativiser in the Nigerian variety of English differs from that of the American variety. As Table 1 shows, speakers of Nigerian English are likely to select *WH*-relativiser over *THAT*-relativiser, a pattern of choice making that is clearly the opposite to the expectation in the literature. Hence, while *that*-relativiser is the preferred choice in the American variety, *which*-relativiser is the preferred choice in Nigerian English. Of course more empirical evidence is required, albeit immediate possible explanations for such pattern are that (1) speakers of Nigerian English are more exposed to and familiar with *WH*-relativiser when there a competition between the two choices, and that (2) the preferential tendency in (1) is perhaps more a reflection of semantic interference or transfer effect from the co-existing local Nigerian languages such as Yoruba, Igbo, and Hausa.

More surprisingly, the factor representing animacy of the antecedent turns out to be bidirectional in terms of its strength influencing both relativisers in different context. For instance, the factor, which was found to be strong influencing *THAT*-relativiser in American English, also provided explanations for contexts where we might find *WH*-relativiser in Nigerian English. For instance, when the antecedent

noun phrase is animate, *which*-relativiser is more likely to occur. On the other hand, *that*-relativiser is more likely to be produced with inanimate antecedent relativised NP element. In addition to the factor animacy emerging influential, factor representing syntactic function also turned out to be noteworthy. According to Guy and Bayley (1995), syntactic function of the relativised element is found significant in American English. This is not the case in Nigerian English.

Meanwhile as Table 2 shows, the syntactic position of the ensuing relative clause and the relativiser posterior syntactic form provided explanations for the structural pattern found. In other words, the three factors representing animacy of the antecedent, the syntactic position of the ensuing relative clause and the relativiser posterior syntactic form are more related to the relativiser alternation than the other factors. So these factors better explain where we might find *which* or *that*-relativiser than the factors do. Another factor that exerts similar influence is the factor representing the syntactic function of the antecedent relativised NP element. Although the extent to which these factors (i.e. syntactic position of the ensuing relative clause and relativiser posterior syntactic form) motivate choices in the American variety (Guy and Bayley 1995) is not made clear, it is clear in the Nigerian variety that: if the ensuing relative clause is closer to the relativised NP, a *which*-relativiser is more likely to be preferred to a *that*-relativiser.

More so, the study did not find strong evidence to suggest that there is a positive relationship the complexity of the relative clause and the alternation of relativiser. However, as Table 2 shows, one can still predict that *WH*-relativiser is more likely to produce complex relative clause than it is for *THAT*-relativiser to produce. Also, *WH*-relativiser, which itself can produce simple-structured or complex-structured, is more likely to produce complex ones (64%) than simple ones (59%). For *THAT*-relativiser, there is sparse variability (41% versus 36% for simple-structured and complex-structured respectively), which means that *THAT*-relative clause is less variable than *WH*-relative clause in Nigerian English. Given that the data used in the present study is rather a small size, then future studies should draw more data which also are subjected to interaction effects (other than the independent effects reported herein) using logistic regression modelling. Of course Nigerian English is a good representative of the outer circle group of varieties representing Ghanaian, Singaporean, Indian, Hong Kong, Philippines, and the likes, more specific data showing the extent of convergences and divergences in these similar but distinct varieties will further enhance our understanding of the structural, semantic, pragmatic, cognitive peculiarities distinguishing each variety.

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